

at least one gripping plate;

62 a restraining device corresponding to each gripping plate, the restraining device being configured to connect the corresponding gripping plate to the pickup head so that the gripping plate is movable relative to the pickup head between an open position and a closed position and so that the gripping plate is movable relative to the pickup head in at least one degree of freedom when the gripping plate is in the open position and in the closed position; and

an actuation device configured to move the at least one gripping plate between the open position and the closed position;

wherein the restraining device includes at least a first link and a second link, said first link and second link connected to the pickup head and to the gripping plate.

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5. (Amended) An apparatus for gripping and releasing at least one item, comprising:

a pickup head;

63 at least one gripping plate;

a restraining device corresponding to each gripping plate, the restraining device being configured to connect the corresponding gripping plate to the pickup head so that the gripping plate is movable relative to the pickup head between an open position and a closed position and so that the gripping plate is movable relative to the pickup head in at least one degree of freedom when the gripping plate is in the open position and in the closed position;

an actuation device configured to move the at least one gripping plate between the open position and the closed position; and

further comprising at least one biasing element corresponding to each gripping plate, the at least one biasing element urging the corresponding gripping plate in a direction in accordance with the at least one degree of freedom.

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64 7. (Amended) The apparatus according to claim 1,

wherein the first link has a first end rotatably connected to the pickup head and a second end rotatably connected to the corresponding gripping plate.

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65 13. (Amended) An apparatus for gripping and releasing at least one item, comprising:

a pickup head;

at least one gripping plate;

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a restraining device corresponding to each gripping plate, the restraining device being configured to connect the corresponding gripping plate to the pickup head so that the gripping plate is movable relative to the pickup head between an open position and a closed position, an end of the gripping plate being displaced inwardly by the restraining device when the gripping plate moved from the open position to the closed position, the restraining device being further configured to permit the gripping plate to be movable relative to the pickup head in at least one degree of freedom when the gripping plate is being moved from the closed position to the open position; and

an actuation device configured to move the at least one gripping plate between the open position and the closed position;

wherein the restraining device includes at least a first link and a second link, said first link and second link connected to the pickup head and to the gripping plate.

14. (Amended) An apparatus for gripping and releasing at least one item, comprising:

a pickup head;

at least one gripping plate;

a restraining device corresponding to each gripping plate, the restraining device being configured to connect the corresponding gripping plate to the pickup head so that the gripping plate is movable relative to the pickup head between an open position and a closed position, an end of the gripping plate being displaced inwardly by the restraining device when the gripping plate moved from the open position to the closed position, the restraining device being further configured to permit the gripping plate to be movable relative to the pickup head in at least one degree of freedom when the gripping plate is being moved from the closed position to the open position; and

an actuation device configured to move the at least one gripping plate between the open position and the closed position; and

further comprising at least one biasing element corresponding to each gripping plate, the at least one biasing element urging the corresponding gripping plate in a direction in accordance with the at least one degree of freedom.

19. (Amended) The apparatus according to claim 13,  
wherein the first link has a first end rotatably connected to the pickup head  
and a second end rotatably connected to the corresponding gripping plate.

21. (Amended) An apparatus for gripping and releasing at least one item,  
comprising:

a pickup head;

at least one gripping plate;

a restraining device corresponding to each gripping plate, the restraining device being configured to connect the corresponding gripping plate to the pickup head so that the gripping plate is movable relative to the pickup head between an open position and a closed position, an end of the gripping plate being displaced inwardly by the restraining device when the gripping plate moved from the open position to the closed position, the restraining device being further configured to permit the gripping plate to be movable relative to the pickup head in at least one degree of freedom when the gripping plate is being moved from the closed position to the open position; and

an actuation device configured to move the at least one gripping plate between the open position and the closed position;

wherein the restraining device includes a linkage system, the linkage system including a first link having a first end rotatably connected to the pickup head and a second end rotatably connected to the corresponding gripping plate; and

wherein the linkage system includes a second link having a first end connected to the pickup head and a second end having a slot, a portion of the corresponding gripping plate being slidably arranged relative to the slot.

23. (Amended) An apparatus for gripping and releasing at least one item,  
comprising:

a pickup head;

at least one gripping plate;

a restraining device corresponding to each gripping plate, the restraining device being configured to connect the corresponding gripping plate to the pickup head so that the gripping plate is movable relative to the pickup head between an open position and a closed position, an end of the gripping plate being displaced